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## Cole Crops or Brassicas

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### Cauliflower

#### *Environmental Preferences*

LIGHT: sunny  
SOIL: well-drained, high organic matter  
pH: 6.0 - 7.0  
TEMPERATURE: cool (60-65°F)  
MOISTURE: keep moist, not water logged

#### *Culture*

PLANTING: Plant after danger of frost is past. Start seeds indoors for early spring transplanting. Seed in beds or flats for fall transplanting.

SPACING: 15-24" x 24-36"

HARDINESS: Hardy annual

FERTILIZER NEEDS: Preplant broadcast 2 lbs 10-10-10/100 sq. ft., use starter fertilizer when transplanting, sidedress three weeks later and as needed with 2 lbs 10-10-10 per 100 sq. ft.

#### CULTURAL PRACTICES:

Spring seedlings should be transplanted after danger of frost is past. Fall cauliflower should be sown in late June to July. Many gardeners experience "buttoning" of cauliflower heads in the spring. This is a failure of the cauliflower head to gain in size after it reaches about an inch or less in diameter. It is usually due to transplant stress or heat stress during the head formation period. Therefore, cauliflower is often better as a fall crop in Virginia. However, some cauliflower varieties require too long a growing

season for fall production in colder areas of Virginia. Use short-season types or season extenders in these areas. (See publication 426-381 for information on season extenders.)

Cauliflower should be blanched when the curd flower head is about 2-3". Three to four large outer leaves are pulled up over the curd and fastened with a rubber band, or are broken over the top of the cauliflower and tucked into the other side of the curd. Normal blanching time is 4-8 days and may take longer in the fall. Self-blanching types have leaves that grow up over the head and eliminate the need for this practice.

If weather is warm during the blanching period, tie the leaves loosely to allow air circulation. Harvest while the curd is still firm. If it gets too mature, it will become grainy or "ricey."

#### *Common Problems*

DISEASES: club root, yellows or fusarium wilt, blackleg and black rot.

INSECTS: cabbage root fly maggots, cut worms, cabbage worms, cabbage looper worms, flea beetles, aphids

CULTURAL: poor heading caused by interrupted growth due to chilling from extremely early planting, or drying out, or high temperatures

#### *Harvesting and Storage*

DAYS TO MATURITY: 55-120 days from transplanting

HARVEST: Cut before curd sections begin to separate. The curd should be compact, firm, white and fairly smooth. Leave a ruff of leaves surrounding head when harvested to prolong keeping quality.

APPROXIMATE YIELDS per 10 ft of row: 8-12 lbs.

FRESH STORAGE: very cold (32°F), moist (95% RH) conditions, 2-4 weeks

PRESERVATION: freeze, pickle

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## Broccoli

### *Environmental Preferences*

LIGHT: sunny

SOIL: well-drained, high organic matter

pH: 6.0 - 7.0

TEMPERATURE: cool (60-65°F)

MOISTURE: keep moist, not waterlogged

### *Culture*

PLANTING: start seeds indoors for early spring transplants. Seed in beds or flats for fall transplants.

SPACING: 15-24" x 24-36"

HARDINESS: hardy annual

FERTILIZER NEEDS: Preplant broadcast 2.5 lbs 10-10-10/100 sq. ft., use starter fertilizer when transplanting, sidedress three weeks later and at first harvest with 2 lb 10-10-10 to maintain vigorous side shoot production.

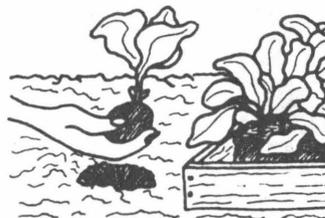
### CULTURAL PRACTICES:

There are two types of broccoli, heading and sprouting. Most garden broccoli is of the heading type which forms a large central head. When the head is removed, side branches will form throughout the summer. Sprouting or Italian broccoli forms many florets or small heads and does not produce a solid head.

Broccoli Raab or Turnip broccoli is not a true broccoli but a type of turnip cultivated for its flower head. Can be sown in spring or fall. Harvest leaves in fall and flower shoots in spring before they open. Cook and eat like asparagus. Most turnips grown for their greens can also be treated this way.

To raise spring broccoli, buy transplants locally or start seed indoors and set out in late April. Transplants for a fall setting can be produced along with cabbage and cauliflower transplants from a late June

sowing, taking about four weeks from seeding to setting into the garden.



The heads of broccoli are really flower buds. These must be harvested before the flowers open or show yellow. Mature heads measure three to six inches across. Lateral heads that develop later are smaller and ideal for freezing.

Sprouting broccolies are sown directly into the garden in spring, following packet directions.

Broccoli has a relatively shallow, fibrous rooting system. Cultivate carefully or, even better, mulch.

### *Common Problems*

DISEASES: clubroot, yellows or fusarium wilt, blackleg and blackrot

INSECTS: cabbage root fly maggots, cutworms, cabbage worms, cabbage looper worms, flea beetles, aphids

CULTURAL: poor heading (buttoning), and early flowers caused by interrupted growth due to chilling, extremely early planting, or drying out; or high temperatures.

### *Harvesting and Storage*

DAYS TO MATURITY: 60-100 from transplanting

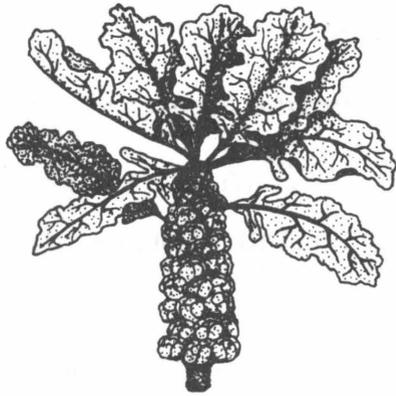
HARVEST: large terminal bud cluster before flowers open, then small side bud clusters as they develop over following weeks. Harvest with 6-8 inches of stalk.

APPROXIMATE YIELDS: (per 10 ft. row) 6-10 bunches or about 4-6 lbs.

AMOUNT TO RAISE PER PERSON: 8 lbs.

FRESH STORAGE: very cold (32°F), moist (95% RH) conditions, 10-14 days

PRESERVATION: freeze



## Brussels Sprouts

### *Environmental Preferences*

**LIGHT:** sunny  
**SOIL:** well-drained loam, high organic matter  
**pH:** 5.5 - 6.5  
**TEMPERATURE:** cool (60-65°F)  
**MOISTURE:** keep moist, not waterlogged

### *Culture*

**PLANTING:** sow seeds early to mid-summer  
**SPACING:** 12-18" x 24-30"  
**HARDINESS:** hardy biennial  
**FERTILIZER NEEDS:** preplant broadcast 2 lbs 10-10-10/100 sq. ft., sidedress 2 lbs 10-10-10 per 100 sq. ft. of row 2-4 weeks after planting or when plants are 12" high.

### **CULTURAL PRACTICES:**

Brussels sprouts are grown for harvest in the fall because cool weather during maturity is essential for good flavor and quality.

Brussels sprouts are tall (sometimes 2-3') erect biennials that are grown as annuals. The sprouts develop in the leaf axils and mature along the stalk. The lowest sprouts mature first and should be harvested when firm, 1 1/2 - 2" in diameter. Lowest leaves may be removed to permit sprouts to mature.

### *Common Problems*

**DISEASES:** clubroot, yellows or fusarium wilt, backleg and black rot

**INSECTS:** cabbage root fly maggots, cutworms, cabbage worm, cabbage looper worms, flea beetles, aphids

**CULTURAL:** sprouts have loose tufts of leaves instead of firm heads (sprouts developed during hot weather); crop failures due to water stress

### *Harvesting and Storage*

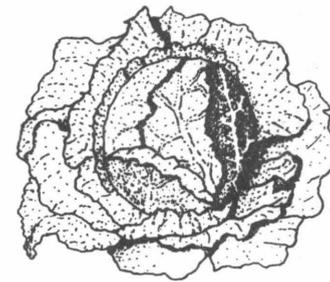
**DAYS TO MATURITY:** 80-100 days from seed

**HARVEST:** when sprouts are hard, compact and deep green about 1-1 1/2" diameter, after frosty weather for best flavor. Twist or snap off the stalk. The lowest sprouts mature first.

**APPROXIMATE YIELDS:** (per 10 ft. row) 4-6 lbs.

**STORAGE:** cold (32°F), moist (95% RH) conditions, 3-5 weeks

**PRESERVATION:** freeze



## Cabbage

### *Environmental Preferences*

**LIGHT:** sunny  
**SOIL:** well-drained  
**pH:** 5.5-6.5  
**TEMPERATURE:** cool (60-65°F)  
**MOISTURE:** keep moist, not water-logged

### *Culture*

**PLANTING:** Start seeds indoors for early spring transplants. Seed in beds or flats for fall transplants.

**SPACING:** 15-18" x 30-36"

**HARDINESS:** hardy biennial

**FERTILIZER NEEDS:** Preplant broadcast with 2 lbs 10-10-10 per 100 sq. ft., use starter fertilizer when transplanting, sidedress three weeks later with 2 lbs 10-10-10 per 100 sq. ft.

### **CULTURAL PRACTICES:**

Cabbage grows from March to December. It will withstand temperatures as low as 15° to 20°F.

Buy locally-grown transplants or produce at home. Start them inside four to six weeks before the first date when plants can be set out or sow a few seeds in the cold-frame or garden every month in order to have cabbage plants thereafter. It takes about three weeks to get plants ready from seeding to set during the summer months. Plant only the earliest varieties after July 1.

It is best not to plant cabbage family crops in the same spot year after year, since diseases and insect pests will build up. Rotate crops to avoid this problem.

Plant spacing affects head size. Close space, 12 inches apart in the row, produces small heads. Average spacing is 15 to 18 inches apart in rows 30 inches apart. Varieties for sauerkraut are spaced wider.

For a small family not interested in sauerkraut production, the dwarf varieties may be ideal. The heads are about the right size for a generous bowl of cole slaw, and the fast maturity makes these varieties excellent for succession planting.

Cabbage is harvested when it reaches adequate size, depending on variety and growing conditions. Firm heads are preferred, especially for storage. Heads can be left on the plant in the garden for about two weeks in the summer, three to four weeks in the fall.

### ***Common Problems***

**DISEASES:** clubroot, yellows or fusarium wilt, blackleg or black rot

**INSECTS:** cabbage root fly maggots, cutworms, imported cabbage worms, cabbage looper worms, flea beetles, aphids

**CULTURAL:** head cracking or splitting due to excessive water uptake and growth near maturity. Root prune with spade or trowel or twist stalk to break some roots and reduce water uptake.

### ***Harvesting and Storage***

**DAYS TO MATURITY:** 70-100 from transplanting

**HARVEST** when heads become firm, size will vary with variety, fertility, and spacing. If unable to harvest at maturity, bend plants to break part of the roots and reduce head splitting.

**APPROXIMATE YIELDS** per 10 ft. row: 10-18 lbs.

**AMOUNT TO RAISE PER PERSON:** 15 lbs.

**FRESH STORAGE:** very cold (32°F), moist (95% RH) conditions, 4-5 months

**PRESERVATION:** Can as sauerkraut, freeze for soups.

## **Kohlrabi**

### ***Environmental Preferences***

**LIGHT:** sunny

**SOIL:** well-drained loam

**pH:** 6.0 - 7.0

**TEMPERATURE:** cool days

**MOISTURE:** average

### ***Culture***

**PLANTING:** sow seed when danger of frost is past. Transplants well.

**SPACING:** 4" x 15-18"

**HARDINESS:** hardy annual

**FERTILIZER NEEDS:** Preplant broadcast 2 lbs 10-10-10 per 100 sq. ft., sidedress at same rate after thinning.

### **CULTURAL PRACTICES:**

Kohlrabi is a fast-growing vegetable that likes cool days for best results, but will grow equally well in hot or cold weather. The edible portion is a "bulb" or enlarged stem just above ground level.

The soil should be high in humus, manure, compost or other organic matter. Good texture and flavor is dependent on the proper amount of water. Always keep the soil moderately moist. Dry soils will produce woody, strong-flavored "bulbs."

Due to kohlrabi's fast-growing nature, you should be able to make several sowings throughout the growing season.

### ***Common Problems***

**DISEASES:** none of importance

**INSECTS:** Flea Beetles

**CULTURAL:** woody bulbs (dry soil, picked too late)

### ***Harvesting and Storage***

**DAYS TO MATURITY:** 80 days

**HARVEST:** Pick the bulbs when they are young, tender and no more than 2 1/2" in diameter.

**APPROXIMATE YIELDS:** 1 "bulb" per plant (approximately 30 per 10 ft row)

**AMOUNT TO RAISE PER PERSON:** 10 plants per person

**STORAGE:** Store extra harvests in a cool basement.

**PRESERVATION:** freeze

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